



Search Report

EIC 3700

STIC Database Tracking Number: 283723

To: JERMIE COZART
Location: RND-10A51
Art Unit: 3726
Thursday, January 29, 2009

Case Serial Number: 10/695205

From: KRISTINE SASALA
Location: EIC3700
RND-8A34
Phone: (571)272-3337

kristine.sasala@uspto.gov

Search Notes

Hi, Jermie

Attached is the paper copy of the completed search. I did an extensive and broad search, on 2 (or more) concentric tubes with either the inner tube expanding or the outer tube shrinking, focusing on those associated with filtration.

I found a few items that may be of interest and I have highlighted those records in the attached document. Please look over the entire document as there may be other items that will be of help to you. Included with the results are the strategies used for each search.

I hope you find this search helpful; if there is anything I can do to refine or revise this search, please let me know. I will be sending you a copy of your search request as well as a STIC Feedback Form via courier. We welcome your feedback and would be particularly interested in learning if you use any of these references in an office action. If you have a moment, please let us know which references you use.

Sincerely,
Kris



Solomon, Terrence

283723

From: JERMIE COZART [Jermie.Cozart@uspto.gov]
Sent: Thursday, January 22, 2009 1:01 PM
To: STIC-EIC3700
Subject: Search Request, Case/Application No.: 10/695,205

Requester: **JERMIE COZART (P/3726)**

Art Unit: **GROUP ART UNIT 3726**

Employee Number: **75048**

Office Location: **RND 10A51**

Phone Number: **(571)272-4528**

Case/Application number: **10/695,205**

Priority Filing Date: **10/28/2003**

Format for Search Results: **Paper**

Is this a Board of Appeals case? No, this is not a Board of Appeals case.

Synonyms:

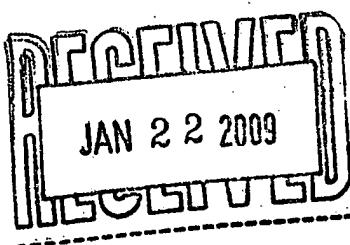
pipe, rod, tube, tubular, shaft, filter, filter layer, screen, expanding, expansion, deform, join, compress, engage, assemble, attach, connect, reduce, jacket, sheathm cover

Describe this invention in your own words:

The invention is directed to assembling filter layer to a pipe by expanding the pipe into engagement with the filter layer. The dependent claims recite that the expansion occurs downhole (meaning within the hole/well into which the pipe/filter has been installed) and the expansion occurs without welding, using adhesives or any mechanical connectors. The broadest claim that being claim 1 merely requires securing a filter layer to a base pipe by expanding the base pipe.

Terms to avoid:

Additional comments:



Attachment: No

Set	Items	Description
S1	457350	S (TUBE? ? OR PIPE? ?) (3X) (TUBE? ? OR PIPE? ?)
S2	7382810	S TUBE? ? OR TUBING OR TUBUL? OR TUBAT? OR TUBIFORM? OR TUBELIKE? OR PIPE? ? OR PIPING? OR PIPELI? OR PIPETTE? OR PIPET? OR HOSE OR HOSES OR DUCT? ? OR CONDUIT? ? OR CYLIND?
S3	7382810	S S1:S2
S4	15651079	EXPAN? OR SPREAD??? OR WIDEN??? OR ENLARG? OR WIDER OR LARGER OR EXTEND? OR OUTWARD? OR OUTSTRETCH? OR DILAT??? OR INCREAS???(5N) (DIAMETER OR DIMENSION?) FROM 248, 323, 36, 144, 99, 63, 25, 81, 96, 104, 105, 2, 6, 8, 292, 89, 134, 9, 16, 160, 148, 621, 264, 587,
S5	547495	S S3(10N)S4
S6	307426	S INTERNAL? OR INNER OR INSIDE OR INTERIOR?? OR INWARD? OR WITHIN OR INLYING OR INSERT???
S7	179588	S S2(5N)S6
S8	73381	S S7(5N)S4
S9	112065	S AXIAL? OR COAXIAL? OR BIAXIAL? OR MULTIAXIAL? OR (BI OR MULTI??? OR CO) ()AXIAL? OR BILUMEN OR MULTILUMEN??? OR TRILUMEN OR MULTIBORE OR CONCENTRIC OR DUALTUBE? ? OR BIWALL?? OR DOUBLE? ?
S10	56571	S S9(5N)S2
S11	18239	S (S1 OR S10) (20N)S8
S12	17903	S S11 FROM 347, 350
S13	336	S S11 NOT S12
S14	60	S S13/2004:2009
S15	276	S S13 NOT S14
S16	87469	S SCREEN??? OR FILTER? OR FILTRATE? OR SIEVE? OR PURIF? OR SEPARAT?
S17	11	S S15(50N)S16
S18	9	RD S17 (unique items)
S19	10358	S IC=E21B?
S20	611	S S19 AND S12
S21	78	S S20(50N)S16

; show files

[File 248] PIRA 1975-2009/Jan W3

(c) 2009 Pira International. All rights reserved.

[File 323] RAPRA Rubber & Plastics 1972-2009/Dec

(c) 2009 RAPRA Technology Ltd. All rights reserved.

*File 323: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

[File 36] MetalBase 1965-20090129

(c) 2009 The Thomson Corporation. All rights reserved.

[File 144] **Pascal** 1973-2009/Jan W3
(c) 2009 INIST/CNRS. All rights reserved.

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2009/Dec
(c) 2009 The HW Wilson Co. All rights reserved.

[File 63] **Transport Res(TRIS)** 1970-2009/Dec
(c) fmt only 2009 Dialog. All rights reserved.

[File 25] **Weldasearch** 1966-2009/Jan
(c) 2009 TWI Ltd. All rights reserved.

[File 81] **MIRA - Motor Industry Research** 2001-2008/May
(c) 2008 MIRA Ltd. All rights reserved.

[File 96] **FLUIDEX** 1972-2009/Jan
(c) 2009 Elsevier B.V. All rights reserved.

**File 96: The file has been reloaded. Accession numbers have changed.*

[File 104] **AeroBase** 1999-2009/Jan
(c) 2009 Contains copyrighted material. All rights reserved.

[File 105] **AESIS** 1851-2001/Jul
(c) 2001 Australian Mineral Foundation Inc. All rights reserved.

**File 105: This file is closed (no updates)*

[File 2] **INSPEC** 1898-2009/Dec W2
(c) 2009 Institution of Electrical Engineers. All rights reserved.

[File 6] **NTIS** 1964-2009/Feb W1
(c) 2009 NTIS, Intl Cpyrgh All Rights Res. All rights reserved.

[File 8] **Ei Compendex(R)** 1884-2009/Jan W3
(c) 2009 Elsevier Eng. Info. Inc. All rights reserved.

[File 292] **GEOBASE(TM)** 1980-2009/Jan W1
(c) 2009 Elsevier B.V. All rights reserved.
**File 292: The file has been reloaded. Accession numbers have changed.*

[File 89] **GeoRef** 1785-2007/Apr B1
(c) 2007 American Geological Institute. All rights reserved.

[File 134] **Earthquake Engineering Abstracts** 1966-2009/Jan
(c) 2009 CSA. All rights reserved.

[File 9] **Business & Industry(R)** Jul/1994-2009/Jan 28
(c) 2009 Gale/Cengage. All rights reserved.

[File 16] **Gale Group PROMT(R)** 1990-2009/Jan 09
(c) 2009 Gale/Cengage. All rights reserved.

[File 160] **Gale Group PROMT(R)** 1972-1989
(c) 1999 The Gale Group. All rights reserved.

[File 148] **Gale Group Trade & Industry DB** 1976-2009/Jan 15
(c) 2009 Gale/Cengage. All rights reserved.

**File 148: The CURRENT feature is not working in File 148. See HELP NEWS148.*

[File 621] **Gale Group New Prod.Annou.(R)** 1985-2009/Dec 25

(c) 2009 Gale/Cengage. All rights reserved.

[File 264] **DIALOG Defense Newsletters** 1989-2009/Jan 23

(c) 2009 Dialog. All rights reserved.

[File 587] **Jane's Defense&Aerospace** 2009/Dec W4

(c) 2009 Jane's Information Group. All rights reserved.

[File 347] **JAPIO** Dec 1976-2008/Aug(Updated 081208)

(c) 2008 JPO & JAPIO. All rights reserved.

[File 350] **Derwent WPIX** 1963-2008/UD=200905

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18/5/1 (Item 1 from file: 36)

MetalBase

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0002922423 IP Accession No.: 134125

Joining tubular metal members.

Patent Assignee: IMPERIAL CHEMICAL INDUSTRIES PLC

Patent: 2209979

Applic: 8722151, 198722151

Patent Country: GB

Applic. Date: 19870921, 19870921, 19880804

1989, 19890601

UK Patent Application 2 209 979 A. Filed: 4 Aug. 1988 (UK 8722151, 21 Sept. 1987). Publ: 1 June 1989. 2 fig., 9 claims., 1989

Avail.: No

Document Type: Patent

File Segment: WELDASEARCH

Abstract

Language: English

Abstract: A metal die has been developed for use in the explosive bonding or mechanical engagement of metal tubes. The inner metal tube is expanded into contact with the outer metal tube, which is supported externally by the surrounding metal die. The die is shaped to form a space between itself and the outer tube, and this contains shock transmitting liquid such as water. The die is easily separated from the expanded tube, is reusable indefinitely, and is maintenance free.

Descriptors: EXPLOSIVE WELDING; PATENTS; PROCESS EQUIPMENT; TUBES AND PIPES; UK WELD

2004 TWI Ltd.

18/5/2 (Item 1 from file: 25)

Weldasearch

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00154584 134125

Joining tubular metal members.

IMPERIAL CHEMICAL INDUSTRIES PLC

UK Patent Application 2 209 979 A. Filed: 4 Aug. 1988 (UK 8722151, 21 Sept. 1987). Publ: 1 June 1989. 2 fig., 9 claims.

Patent (number,date): GB 2209979 A 19890601

Application Date: 19880804

Priority (no, Date): GB 198722151 19870921

Publication Date: 19890601 **Document Type:** Patent

Language: English **Record Type:** Abstract

A metal die has been developed for use in the explosive bonding or mechanical engagement of metal **tubes**. The **inner metal tube** is **expanded** into contact with the outer metal tube, which is supported externally by the surrounding metal die. The die is shaped to form a space between itself and the outer tube, and this contains shock transmitting liquid such as water. The die is easily **separated** from the expanded tube, is reusable indefinitely, and is maintenance free.

File Segment: Technical

Twi Availability: No

Descriptors: EXPLOSIVE WELDING; PATENTS; PROCESS EQUIPMENT; TUBES AND PIPES; UK

18/5/5 (Item 2 from file: 6)

Fulltext available through: [Check for PDF Download Availability and Purchase](#)

NTIS

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0362969 **NTIS Accession Number:** PATENT-3 633 888/XAB

Concentric Fluidized Beds

(Patent)

Killian, D. C. ; Roch, A. P.

Atomic Energy Commission, Washington, D.C.

Report Number: PAT-APPL-12 643

Filed 19 Feb 70 patented 11 Jan 72 4p

Document Type: Patent

Journal Announcement: GRAI7304

Government-owned invention available for licensing. Copy of patent available Commissioner of Patents, Washington, D.C. 20231 \$0.50.

NTIS Prices: Not available NTIS

A fluidized bed burner has a center tube defining an inner fluidized bed, constituting a first-stage burner, and an outer tube **concentric** to the **inner tube** and spaced radially **outward** from the **inner tube** to define an annular-shaped fluidized bed. The upper portion of the center tube wall **separating** the fluidized beds is perforated to permit a free flow of material between the two beds for improved heat transfer and temperature control. The upper portion of the outer tube extends substantially above the top of the center tube to define a second-stage burner area above the

fluidized beds.

Descriptors: *Fluidized bed processors; *Patents; Nuclear fuel reprocessing; Uranium oxides; Graphite; Nuclear fuel particles

Identifiers: Pat-Cl-263-21-A; NTISGPAC

Section Headings: 77I (Nuclear Science and Technology--Reactor Fuels and Fuel Processing); 90GE (Government Inventions For Licensing--General)

18/5/6 (Item 1 from file: 8)

Ei Compendex(R)

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0015284344 **E.I. COMPENDEX No:** 2002477225569

Analysis of the welding-soldering process in heat exchanger tube boards by the explosive method

Vorob'ev, Yu.S.; Chernobrivko, M.V.; Kolodyazhnyj, A.V.; Kruszka, L.

Corresp. Author/Affil: Vorob'ev, Yu.S.: Inst. Problem Mash., NAN Ukrayn, Khar'kov, Ukraine

Problemy Prochnosti (Probl Prochn) (Russian Federation) 2002 -/4 (126-131)

Publication Date: 20021126

Publisher: Institut Problem Prochnosti NAN

CODEN: PPCNB **ISSN:** 0556-171X

Document Type: Article; Journal **Record Type:** Abstract

Treatment: X; (Experimental)

Language: Russian **Summary Language:** Russian; Ukrainian; English

Number of References: 5

We study the process of kinematic welding-soldering of thin-walled tube boards and tube elements employed in the design of heat exchangers. This process is simulated by high-speed contact interaction of **coaxial cylinders separated** by a thin interlayer of high-strength amorphous solder, whereas the **internal cylinder expands** under the action of explosive pulse loading. In solving the problem of thermoelastoplasticity, we take into account the material dynamic properties. The process is experimentally studied on test specimens.

Descriptors: Elastoplasticity; Explosive welding; Simulation; Soldering; Thermoelasticity; Tubes (components);

*Heat exchangers

Classification Codes:

538.1.1 (Soldering)

538.2 (Welding)

616.1 (Heat Exchange Equipment & Components)

619.1 (Pipe, Piping & Pipelines)

21/5/7 (Item 6 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0015490395 & & Drawing available

WPI Acc no: 2006-054521/200606

Related WPI Acc No: 2003-448096

XRAM Acc no: C2006-020433

XRPX Acc No: N2006-047003

Expandable sand screen for use in wellbore comprises perforated base pipe surrounded by structure configured to filter particulates from entering interior of base pipe, and encapsulation on outer surface of structure

Patent Assignee: CAMERON J A M (CAME-I); WEATHERFORD/LAMB INC (WEAT-N)

Inventor: CAMERON J A M

Patent Family (2 patents, 1 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050279515	A1	20051222	US 2001964160	A	20010926	200606	B
			US 2005183440	A	20050718		
US 7073601	B2	20060711	US 2005183440	A	20050718	200646	E

Priority Applications (no., kind, date): US 2001964160 A 20010926; US 2005183440 A 20050718

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes		
US 20050279515	A1	EN	9	5	Continuation of application	US 2001964160	
					Continuation of patent	US 6932161	

Alerting Abstract US A1

NOVELTY - An expandable sand screen has a perforated base pipe (22) surrounded by a structure configured to filter particulates from entering an interior of the base pipe; and encapsulation on an outer surface of the structure, the encapsulation comprising a metal tubular, cable, and body.

DESCRIPTION - The expandable sand screen comprises a perforated base pipe surrounded by structure configured to filter particulates from entering the interior of the base pipe; and encapsulation on the outer surface of the structure. The encapsulation comprises a metal tubular; a cable inside of the metal tubular; and a body surrounding the metal tubular. The body has a shape such that the encapsulation defines a rounded protruding profile extending from the outer surface of the structure and the encapsulation prevents the formation of a vertical flow channel outside of the expandable sand screen after the expandable sand screen is expanded against a surrounding surface. An **INDEPENDENT CLAIM** is also included for locating an expandable sand screen in a wellbore, comprising providing a perforated base pipe surrounded by a structure configured to filter particulates from entering the interior of the base pipe; and expanding the perforated base pipe and the structure in a radial direction, thereby causing an outer surface of the structure along with an encapsulation on an outer surface of the structure to substantially block vertical flow between an outside of the expandable sand screen and a surrounding surface, in which the encapsulation comprises a metal tubular within a body of the encapsulation and a cable inside of the metal tubular. **USE** - Used in a wellbore (claimed).

ADVANTAGE - The sand screen provides encapsulation for control lines or instrumentation lines, which is not rectangular in shape, but is profiled to allow a close fit between an expandable tubular and a formation wall or parent casing. The encapsulation resides between the outside surface of an expandable and the formation wall, and does not leave a vertical channel outside of the expandable tubular when it is expanded against the formation wall. It is durable to withstand abrasions incurred while being run into the wellbore, but is deformable to be deformed in

arcuate fashion as to closely reside between an expanded tubular and the wall of a wellbore, whether cased or open.
DESCRIPTION OF DRAWINGS - The figure is a sectional view showing an open hole wellbore with expandable screen and tubulars.

10 Encapsulation

18 Clamps

20 Sand screen

22 Base pipe

24 Filter media

26 Outer shroud

30 Liner

32 Liner hanger

Title Terms /Index Terms/Additional Words: EXPAND; SAND; SCREEN; COMPRISE; PERFORATION; BASE; PIPE; SURROUND; STRUCTURE; CONFIGURATION; FILTER; PARTICLE; ENTER; INTERIOR; ENCAPSULATE; OUTER; SURFACE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date		
E21B-023/02			Main		"Version 7"		
E21B-0043/10	A	I	F	B	20060101		
E21B-0043/02	C	I	F	B	20060101		

ECLA: E21B-017/10D, E21B-043/08, E21B-043/10F

US Classification, Current Main: 166-384000; Secondary: 166-207000, 166-380000

US Classification, Issued: 166207, 166380, 166384, 166381, 166206, 166236, 166242.1

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C07

21/5/8 (Item 7 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0015323929 & & Drawing available

WPI Acc no: 2005-674178/200569

Related WPI Acc No: 2004-202901; 2005-553709

XRAM Acc no: C2005-204540

XRPX Acc No: N2005-552890

Well completion involves covering base pipe(s) with porous conforming material, running base pipe in wellbore, expanding conforming material, and filtering fluids

Patent Assignee: RICHARD B M (RICH-I); BAKER HUGHES INC (BAKO)

Inventor: **RICHARD B M; BENNETT R**

Patent Family (8 patents, 111 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050205263	A1	20050922	US 2002226941	A	20020823	200569	B
			US 2005105071	A	20050413		
WO 2006113500	A1	20061026	WO 2006US14197	A	20060413	200671	E
GB 2440066	A	20080116	GB 200720004	A	20071012	200807	E
			WO 2006US14197	A	20060413		
US 7318481	B2	20080115	US 2005105071	A	20050413	200807	E
AU 2006236559	A1	20061026	AU 2006236559	A	20060413	200810	E
NO 200705594	A	20080104	NO 20075594	A	20071105	200816	E
			WO 2006US14197	A	20060413		
CN 101175893	A	20080507	CN 200680016203	A	20060413	200850	E
			WO 2006US14197	A	20060413		
CA 2604236	A1	20061026	CA 2604236	A	20060413	200862	E
			WO 2006US14197	A	20060413		
			CA 2604236	A	20071011		

Priority Applications (no., kind, date): US 2002226941 A 20020823; US 2005105071 A 20050413

Patent Details

Patent Number	Kind	Ln	Pgs	Draw	Filing Notes	
US 20050205263	A1	EN	6	2	C-I-P of application	US 2002226941
WO 2006113500	A1	EN				
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU LV MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
GB 2440066	A	EN			PCT Application	WO 2006US14197
					Based on OPI patent	WO 2006113500
AU 2006236559	A1	EN			Based on OPI patent	WO 2006113500
NO 200705594	A	NO			PCT Application	WO 2006US14197
CN 101175893	A	ZH			PCT Application	WO 2006US14197
					Based on OPI patent	WO 2006113500

CA 2604236	A1	EN		PCT Application	WO 2006US14197
				CA 2604236	
				Based on OPI patent	WO 2006113500

Alerting Abstract US A1

NOVELTY - Well completion comprises covering a base pipe(s) with a porous conforming material, running the base pipe to a desired location in the wellbore, expanding the conforming material toward the wellbore wall, and filtering fluids through the conforming material to the base pipe.

USE - The invention is used as a well completion method.

ADVANTAGE - The invention minimizes or eliminates welds, thus providing a more reliable screen operation after expansion.

DESCRIPTION OF DRAWINGS - The figure shows a section view of an assembly of screens.

10 Screen

14 Screen material

16 Conforming layer

30 Borehole

32 Jacket

Title Terms /Index Terms/Additional Words: WELL; COMPLETE; COVER; BASE; PIPE; POROUS; CONFORM; MATERIAL; RUN; EXPAND; FILTER; FLUID

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date		
E21B-043/08			Main		"Version 7"		
E21B-0043/08	A	I	F	B	20060101		

E21B-0043/10	A	I	L	B	20060101		
E21B-0043/10	A	I	F		20060101		
E21B-0043/02	C	I			20060101		
E21B-0043/02	C	I	F	B	20060101		
E21B-0043/02	C	I		B	20060101		

ECLA: E21B-043/08S, E21B-043/10F, E21B-043/10F3

US Classification, Current Main: 166-369000; **Secondary:** 166-207000, 166-227000, 166-380000

US Classification, Issued: 166380, 166207, 166227, 166369, 166369, 166227, 166380

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C07

21/5/9 (Item 8 from file: 350)

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Derwent WPIX

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0015203696 & & Drawing available

WPI Acc no: 2005-553709/200556

Related WPI Acc No: 2004-202901; 2005-674178; 2006-037411

XRAM Acc no: C2005-166928

XRPX Acc No: N2005-453909

Well completion involves covering tubular having opening(s) with unrestrained conforming material, running tubular to desired location in wellbore, and allowing unrestrained conforming material to expand

Patent Assignee: BAKER HUGHES INC (BAKO)

Inventor: **RICHARD B. M.**

Patent Family (2 patents, 1 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20050173130	A1	20050811	US 2002226941	A	20020823	200556	B
			US 2005102034	A	20050408		
US 7013979	B2	20060321	US 2005102034	A	20050408	200621	E

Priority Applications (no., kind, date): US 2002226941 A 20020823; US 2005102034 A 20050408

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
US 20050173130	A1	EN	5	2	Continuation of application	US 2002226941

Alerting Abstract US A1

NOVELTY - Well completion comprises covering a tubular having opening(s) with an unrestrained conforming material; running the tubular to a desired location in the wellbore; and allowing the unrestrained conforming material to expand.

USE - Used for the completion of wells.

ADVANTAGE - The use of the conforming material in well completion allows a variety of expansion techniques to be used and an improvement of the ability to eliminate void spaces outside the expanded screen (10, 14) caused by borehole (30) irregularities. The conforming material can swell sufficiently without downhole expansion of the screen to allow for the elimination of the need to gravel pack.

DESCRIPTION OF DRAWINGS - The figure is a section view of an assembly of screens in the expanded position downhole.

10, 14 Screen

12 Base pipe

16 Conforming layer

30 Borehole

32 Outer protective jacket

Title Terms /Index Terms/Additional Words: WELL; COMPLETE; COVER; TUBE; OPEN; UNRESTRAINED; CONFORM; MATERIAL; RUN; LOCATE; ALLOW; EXPAND

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date			
E21B-0043/08	A	I	F	B	20060101			
E21B-0043/08	A	I		R	20060101			
E21B-0043/10	A	I		R	20060101			
E21B-0043/02	C	I	F	B	20060101			
E21B-0043/02	C	I		R	20060101			

ECLA: E21B-043/08S, E21B-043/10F, E21B-043/10F3

US Classification, Current Main: 166-384000; Secondary: 166-207000, 166-227000

US Classification, Issued: 166384, 166207, 166227, 166369, 166207, 166227, 166380

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C

21/5/11 (Item 10 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0014914542 & & Drawing available

WPI Acc no: 2005-262224/200527

XRAM Acc no: C2005-082901

XRPX Acc No: N2005-215369

Expandable tube for use as sand control screen, has energy storage springs which store energy when tube has initial diameter, so that tube expands upon release of expansive energy from springs

Patent Assignee: DYNAMIC TUBULAR SYSTEMS INC (DYNA-N); SPRAY J (SPRA-I); SPRAY J A (SPRA-I)

Inventor: SPRAY J A

Patent Family (10 patents, 107 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2005021931	A1	20050310	WO 2004US27580	A	20040825	200527	B
US 20050109517	A1	20050526	US 2003497688	P	20030825	200535	E
			US 2003503287	P	20030916		
			US 2004925521	A	20040825		

EP 1658416	A1	20060524	EP 2004782137	A	20040825	200635	E
			WO 2004US27580	A	20040825		
AU 2004268229	A1	20050310	AU 2004268229	A	20040825	200661	E
BR 200413886	A	20061121	BR 200413886	A	20040825	200678	E
			WO 2004US27580	A	20040825		
EP 1658416	B1	20061227	EP 2004782137	A	20040825	200702	E
			WO 2004US27580	A	20040825		
CN 1842635	A	20061004	CN 200480024633	A	20040825	200715	E
DE 602004003962	E	20070208	DE 062004003962	A	20040825	200723	E
			EP 2004782137	A	20040825		
			WO 2004US27580	A	20040825		

IN 200600629	P4	20070629	WO 2004US27580	A	20040825	200768	E
			IN 2006CN629	A	20060221		
DE 602004003962	T2	20071018	DE 062004003962	A	20040825	200770	E
			EP 2004782137	A	20040825		
			WO 2004US27580	A	20040825		

Priority Applications (no., kind, date): US 2003497688 P 20030825; US 2003503287 P 20030916; US 2004925521 A 20040825

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes		
WO 2005021931	A1	EN	44	11			
National Designated States,Original		AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW					
Regional Designated States,Original		AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW					
US 20050109517	A1	EN			Related to Provisional	US 2003497688	
					Related to Provisional	US 2003503287	
EP 1658416	A1	EN			PCT Application	WO 2004US27580	
					Based on OPI patent	WO 2005021931	
Regional Designated States,Original		AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR					
AU 2004268229	A1	EN			Based on OPI patent	WO 2005021931	
BR 200413886	A	PT			PCT Application	WO 2004US27580	
					Based on OPI patent	WO 2005021931	
EP 1658416	B1	EN			PCT Application	WO 2004US27580	
					Based on OPI patent	WO 2005021931	
Regional Designated		AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL					

States,Original	PL	PT	RO	SE	SI	SK	TR
DE 602004003962	E		DE		Application	EP 2004782137	
					PCT Application	WO 2004US27580	
					Based on OPI patent	EP 1658416	
					Based on OPI patent	WO 2005021931	
IN 200600629	P4		EN		PCT Application	WO 2004US27580	
DE 602004003962	T2		DE		Application	EP 2004782137	
					PCT Application	WO 2004US27580	
					Based on OPI patent	EP 1658416	
					Based on OPI patent	WO 2005021931	

Alerting Abstract WO A1

NOVELTY - A base tube (60') has the energy storage springs (70) which store energy when the tube has an initial diameter. The tube expands to have a diameter which is larger than the initial diameter, upon the release of expansive energy from the springs.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. method of expanding expandable tube in geologic structure;
2. method of forming expandable tube for use in geologic structure;
3. sand control screen for use in geologic structure; and
4. method of expanding sand control screen in geologic structure.

USE - Expandable tubes for inserting solid tubes such as casing, liner-hanger, isolation sleeve, packer and/or sand-control screen through smallest diameter casing and/or borehole, in geologic structure such as well for production of hydrocarbon gases and oils, and for use as sand control screen (claimed), and for use in water wells, monitoring and remediation wells, tunnels and pipelines.

ADVANTAGE - Enables easily expanding the tube so that the tube abuts the interior of the geologic structure such as well casing or borehole.

DESCRIPTION OF DRAWINGS - The figure shows a perspective view of the expandable tube.

50" expandable tube

60' base tube

70 energy storage springs

Title Terms /Index Terms/Additional Words: EXPAND; TUBE; SAND; CONTROL; SCREEN; ENERGY; STORAGE; SPRING; INITIAL; DIAMETER; SO; RELEASE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
E21B-043/10			Main		"Version 7"

E21B-0043/10	A	I	F	B	19680901		
E21B-0043/10	A	I	F		20060101		
E21B-0043/10	A	I		R	20060101		
E21B-0043/02	C	I	F	B	20060101		
E21B-0043/02	C	I		R	20060101		
E21B-0043/02	C	I			20060101		

ECLA: E21B-043/10F

US Classification, Current Main: 166-380000; **Secondary:** 166-206000, 166-207000, 166-382000

US Classification, Issued: 166380, 166206, 166207, 166382

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C01; H01-C07

21/5/17 (Item 16 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0014390311 & & Drawing available

WPI Acc no: 2004-579549/200456

XRAM Acc no: C2005-000056

XRPX Acc No: N2005-000067

Well screen for fracturing and/or gravel packing completion in wellbore, includes base pipe, sections of exit nozzle chambers, and shunt tubes positioned in annulus formed by the pipe and outer surface and connected to the chambers

Patent Assignee: GUNNEROED T (GUNN-I); RESLINK INC (RESL-N)

Inventor: GUNNEROED T; TERJE G

Patent Family (2 patents, 106 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 20040140089	A1	20040722	US 2003347973	A	20030121	200456	B
WO 2004094769	A2	20041104	WO 2004US1445	A	20040121	200472	E

Priority Applications (no., kind, date): US 2003347973 A 20030121

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 20040140089	A1	EN	16	7	

WO 2004094769	A2	EN			
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW				
Regional Designated States,Original	AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW				

Alerting Abstract US A1

NOVELTY - A well screen comprises a base pipe having openings through its wall, an outer surface having a section mounted over the base pipe, at least one section of exit nozzle chambers placed over the pipe and adjacent to permeable outer surface section, and at least one shunt tube secured to the inside of the outer surface and extending axially along the base pipe adjacent to the permeable section of the outer surface.

DESCRIPTION - A well (20) screen (17) comprises a base pipe

5. having openings through its wall, an outer surface (32) having a section mounted over the base pipe, at least one section of exit nozzle chambers placed over the base pipe and adjacent to the permeable outer surface section, and at least one shunt tube positioned inside the annulus (8) and secured to the inside of the outer surface and extending axially along the base pipe adjacent to the permeable section of the outer surface. Some surfaces of the section are permeable to fluids and abating the flow of particulate material. The outer surface has standoff from the base pipe to form an annulus between the base pipe and the outer surface. The section of exit nozzle chambers is secured to the outer surface. The nozzle chamber section has multiple exit ports (31a) circumferentially spaced around the nozzle chamber section. The exit nozzle chambers are connected to the shunt tube for communicating with the outside of the outer surface of the screen.

USE - For fracturing and/or gravel packing a completion in a wellbore (25).

ADVANTAGE - The invention obtains a good distribution of gravel over the entire completion interval even if a sand bridge or void is formed in the well annulus before the placement of gravel is completed. It provides for distributing the gravel slurry to different points of the wellbore annulus from unperforated flow conduits or shunt tubes positioned with the annulus formed between the base pipe and the outer surface of the screen, thus providing the necessary alternate flowpaths for the slurry without increasing the overall, outside diameter of the screen.

DESCRIPTION OF DRAWINGS - The figure shows an elevational view, partly in cut away, of the well screen.

- 1 Base pipe
- 2 Coupling
- 5 Openings
- 6 Nozzle chambers
- 7 Shunt tube
- 8 Annulus
- 13 Manifold area
- 17 Screen
- 20 Well
- 25 Wellbore
- 31a Exit ports

32 Outer surface

33 Wire

Title Terms /Index Terms/Additional Words: WELL; SCREEN; FRACTURE; GRAVEL; PACK; COMPLETE; BASE; PIPE; SECTION; EXIT; NOZZLE; CHAMBER; SHUNT; TUBE; POSITION ; ANNULAR; FORMING; OUTER; SURFACE; CONNECT

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date				
E21B-0034/06	A	I		R	20060101				
E21B-0043/04	A	I		R	20060101				
E21B-0043/08	A	I		R	20060101				
E21B-0034/00	C	I		R	20060101				
E21B-0043/02	C	I		R	20060101				

ECLA: E21B-034/06, E21B-043/04C, E21B-043/08

US Classification, Current Main: 166-228000; Secondary: 166-236000

US Classification, Issued: 166228, 166236

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C03; H01-C07; H01-C08

21/5/20 (Item 19 from file: 350)

Fulltext available through: [Order File History](#)

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0013746975 & & Drawing available

WPI Acc no: 2003-845600/200378

XRAM Acc no: C2003-237702

XRPX Acc No: N2003-675826

Expandable downhole tubular, for expandable downhole tubing string, has expandable inner support tube, expandable outer tube, and filter tube comprising filter portion(s) and extendable portion(s)

Patent Assignee: RUDD W (RUDD-I); WEATHERFORD LAMB (WEAT-N); WEATHERFORD/LAMB INC (WEAT-N)

Inventor: RUDD W

Patent Family (6 patents, 100 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2003091537	A1	20031106	WO 2003GB1718	A	20030423	200378	B
US 20040003927	A1	20040108	US 2003423835	A	20030425	200404	E
AU 2003226559	A1	20031110	AU 2003226559	A	20030423	200442	E
GB 2403491	A	20050105	WO 2003GB1718	A	20030423	200504	E
			GB 200419215	A	20040831		
GB 2403491	B	20060322	WO 2003GB1718	A	20030423	200623	E
			GB 200419215	A	20040831		
US 7077196	B2	20060718	US 2003423835	A	20030425	200648	E

Priority Applications (no., kind, date): GB 20029472 A 20020425

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 2003091537	A1	EN	38	3		
National Designated States,Original		AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW				

Regional Designated States,Original	AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
AU 2003226559	A1 EN
GB 2403491	A EN
GB 2403491	B EN

Based on OPI patent WO 2003091537

PCT Application WO 2003GB1718

Based on OPI patent WO 2003091537

PCT Application WO 2003GB1718

Based on OPI patent WO 2003091537

Alerting Abstract WO A1

NOVELTY - An **expandable** downhole tubular comprises an **expandable inner support tube** (14); an **expandable** outer tube (18); and a **filter** tube (22) between the inner support tube and the outer tube. The **filter** tube comprises **filter** portion(s) and extendable portion(s) coupling axial edges of the **filter** portion. The extendable portion is extendable to accommodate circumferential expansion of the **filter** tube.

DESCRIPTION - INDEPENDENT CLAIMS are included for:

- A method of lining a borehole (12) and recovering a well fluid from the borehole, which involves providing a string of tubing including expandable tubular(s); locating the string of tubing in the borehole; and exerting a force on the filter tube to extend the extendable portion and circumferentially expand the expandable tubular, to provide a flow path for the well fluids from surrounding formations through the filter tube to surface, while retaining solid particles of a selected size externally of the filter tube; and

B. A method of manufacturing the expandable downhole tubular, by mounting the filter tube on the support tube.

USE - For an expandable downhole tubing string (claimed) comprising expandable downhole tubulars.

ADVANTAGE - The novel tubular is more economic to manufacture than conventional assemblies, while maintaining or improving operational performance. It is quicker, easier and less expensive to manufacture without any reduction in operational capabilities. It provides a filter where expansion may be accommodated without or with minimal extension of the filter portion. Thus, characteristics of the filter portion, e.g. mesh dimensions and filter performance, are maintained.

DESCRIPTION OF DRAWINGS - The figure is a schematic, partially cut-away view of an expandable downhole tubular as above in a borehole in an unexpanded configuration.

12 Borehole

14 Expandable inner support tube

18 Expandable outer tube

22 Filter tube

24 Curved filter screen

28 Extendable member

Title Terms /Index Terms/Additional Words: EXPAND; DOWNHOLE; TUBE; STRING; INNER; SUPPORT; OUTER; FILTER; COMPRISE; PORTION; EXTEND

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date				
E21B-0043/08	A	I	F	B	20060101				
E21B-0043/08	A	I		R	20060101				
E21B-0043/10	A	I	F	B	20060101				
E21B-0043/10	A	I	L	B	20060101				
E21B-0043/10	A	I		R	20060101				
E21B-0043/02	C	I	F	B	20060101				
E21B-0043/02	C	I		R	20060101				

ECLA: E21B-043/08S, E21B-043/10F

US Classification, Current Main: 166-207000, 166-382000; **Secondary:** 166-207000, 166-227000, 166-236000, 166-242100, 166-384000

US Classification, Issued: 166382, 166207, 166242.1, 166227, 166207, 166227, 166236, 166384

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C01

21/5/29 (Item 28 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0011082349 & & Drawing available

WPI Acc no: 2002-017747/200202

Related WPI Acc No: 2002-394689; 2006-513552; 1999-217609

XRAM Acc no: C2002-005191

XRPX Acc No: N2002-014133

Clamp for securing two concentric tubes used in oil or gas wells, includes clamping device for reducing inner diameter of larger tubular casing to engage and secure smaller tubular casing

Patent Assignee: VAN BILDERBEEK B (VBIL-I); VAN BILDERBEEK B H (VBIL-I); VANBILDERBEEK B H (VANB-I); PLEXUS OCEAN SYST LTD (PLEX-N)

Inventor: VAN BILDERBEEK B; VAN BILDERBEEK B H; VANBILDERBEEK B H

Patent Family (5 patents, 93 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 2001084032	A1	20011108	WO 2001US14270	A	20010503	200202	B
AU 200161148	A	20011112	AU 200161148	A	20010503	200222	E
US 6662868	B1	20031216	US 2000563959	A	20000503	200382	E
			US 2000696427	A	20001025		
US 20040163821	A1	20040826	US 2000563959	A	20000503	200457	E
			US 2000696427	A	20001025		
			US 2003721443	A	20031124		
US 7111688	B2	20060926	US 1998179056	A	19981026	200663	E
			US 2000563959	A	20000503		
			US 2000696427	A	20001025		
			US 2003721443	A	20031124		

Priority Applications (no., kind, date): US 1998179056 A 19981026; US 2000563959 A 20000503; US 2000696427 A 20001025; US 2003721443 A 20031124

Patent Details

Patent Number	Kind	Lang	Pgs	Draw	Filing Notes	
WO 2001084032	A1	EN	45	9		
National Designated States,Original	AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
Regional Designated States,Original	AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					

AU 200161148	A	EN		Based on OPI patent	WO 2001084032
US 6662868	B1	EN		C-I-P of application	US 2000563959
US 20040163821	A1	EN		C-I-P of application	US 2000563959
				Division of application	US 2000696427
				Division of patent	US 6662868
US 7111688	B2	EN		Division of application	US 1998179056
				C-I-P of application	US 2000563959
				Division of application	US 2000696427
				Division of patent	US 6092596
				Division of patent	US 6662868

Alerting Abstract WO A1

NOVELTY - A clamp comprises a closed chamber mounted on a larger tubular casing (50), and a clamping device for generating forces within the reaches of the closed chamber to reduce an inner diameter of the larger tubular casing to engage and secure smaller tubular casing (52).

DESCRIPTION - An INDEPENDENT CLAIM is also included for a clamping arrangement comprising a larger diameter casing having thin walls, and a compression unit comprising a collar and a ring. The compression ring and compression collar have oppositely directed axially tapered annular surfaces, such that their axial movement produces a reduction in the internal diameter of the unit to distort the larger diameter casing inwards to grip the smaller diameter casing.

USE - For clamping two concentric tubes used in oil or gas wells.

ADVANTAGE - The clamping device is pre-installed and can be externally activated, thus the blowout preventers can remain in place throughout the installation, clamping or release of the installed casing. The section of the casing to be distorted is made from high value/high strength materials (as compared with the rest of the casing), thus that section can withstand high internal pressures or can withstand corrosion.

DESCRIPTION OF DRAWINGS - The drawing shows a cross-section of a clamping arrangement.

50 Larger tubular casing

52 Smaller tubular casing

62 Seal

70 Collar

78 Bolts

80, 82 Tapered surfaces

Title Terms /Index Terms/Additional Words: CLAMP; SECURE; TWO; CONCENTRIC; TUBE; OIL; GAS; WELL; DEVICE; REDUCE; INNER; DIAMETER; LARGER; CASING; ENGAGE; SMALLER

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date			
E21B-0017/18	A	I	F	B	20060101			
E21B-0019/16	A	I	L	B	20060101			
E21B-0033/038	A	I		R	20060101			
E21B-0033/04	A	I		R	20060101			

E21B-0033/047	A	I		R	20060101		
F16L-0019/06	A	I	L	B	20060101		
F16L-0039/00	A	I		R	20060101		
E21B-0017/00	C	I	F	B	20060101		
E21B-0019/00	C	I	L	B	20060101		
E21B-0033/03	C	I		R	20060101		
F16L-0019/00	C	I	L	B	20060101		
F16L-0039/00	C	I		R	20060101		

ECLA: E21B-019/00A2, E21B-033/038, E21B-033/04, E21B-033/04M, E21B-033/047, F16L-039/00B

US Classification, Current Main: 166-379000, 166-382000; **Secondary:** 166-075140, 166-242600, 285-123500

US Classification, Issued: 16675.14, 166379, 16696.1, 16688.2, 285123.1, 285382, 16689.1, 166382, 16675.14, 166242.6, 285123.5

File Segment: CPI; EngPI

DWPI Class: H01; Q49; Q67

Manual Codes (CPI/A-N): H01-C01

21/5/42 (Item 41 from file: 350)

Fulltext available through: [Order File History](#)

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0008907376 & & Drawing available

WPI Acc no: 1998-457206/199839

XRPX Acc No: N1998-356777

Tubular pipe end connector with snap ring - has cylinder, made of composite material, with end shaped to house two axially aligned segments spaced apart by snap ring and forced axially and radially into contact with contoured bore of cylinder end

Patent Assignee: NORTHROP GRUMMAN CORP (NOTH)

Inventor: ANDERSON J J; MICKELSON C S; NANCE D A

Patent Family (5 patents, 18 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1998036203	A1	19980820	WO 1998US2871	A	19980212	199839	B
US 5813467	A	19980929	US 1997800601	A	19970214	199846	E
EP 960299	A1	19991201	EP 1998907463	A	19980212	200001	E
			WO 1998US2871	A	19980212		
EP 960299	B1	20010523	EP 1998907463	A	19980212	200130	E
			WO 1998US2871	A	19980212		
BR 199807379	A	20010918	BR 19987379	A	19980212	200158	E

Priority Applications (no., kind, date): US 1997800601 A 19970214

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
WO 1998036203	A1	EN	26	8	
National Designated States,Original	BR				
Regional Designated States,Original	AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
EP 960299	A1	EN			PCT Application WO 1998US2871
					Based on OPI patent WO 1998036203
Regional Designated States,Original	GB				
EP 960299	B1	EN			PCT Application WO 1998US2871
					Based on OPI patent WO 1998036203
Regional Designated States,Original	GB				
BR 199807379	A	PT			PCT Application WO 1998US2871
					Based on OPI patent WO 1998036203

Alerting Abstract WO A1

The end of a cylinder (40), made from a composite material, has a bore shaped to house the end connector assembly which comprises a pair of axially aligned sleeve type segments (42a,42b) each having a tapered cross section, both sleeve type segments have a bore of a predetermined size and a radially compressible snap ring (46) having an at rest bore size.

The cylinder end is shaped to conform with the external shape of the axially aligned segments to prevent withdrawal from the cylinder. During assembly the two sleeve segments are forced axially apart and while the diameter of snap ring is reduced by compression it is inserted between the facing ends of the segments, pushing them apart to close any axial gap, and into radial contact with the shaped bore of the cylinder end prior to the application of an axial load.

USE - Pipe lines, drilling rigs and similar applications in hostile environments.

ADVANTAGE - Permits the use of composite tubes and structures where reduction of weight, corrosion resistance, durability and increased strength are beneficial, improved connections, suitable for use where temperature changes can cause fatigue due to thermal mismatch and induced thermal stresses.

Title Terms /Index Terms/Additional Words: TUBE; PIPE; END; CONNECT; SNAP; RING; CYLINDER; MADE; COMPOSITE; MATERIAL; SHAPE; HOUSE; TWO; AXIS; ALIGN; SEGMENT; SPACE; APART; FORCE; RADIAL; CONTACT; CONTOUR; BORE

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date			
E21B-0017/01	A	I		R	20060101			
E21B-0017/08	A	I		R	20060101			
F16L-0047/24	A	I		R	20060101			
E21B-0017/00	C	I		R	20060101			
E21B-0017/02	C	I		R	20060101			
F16L-0047/00	C	I		R	20060101			

ECLA: E21B-017/01, E21B-017/08A, F16L-047/24

US Classification, Current Main: 166-367000; **Secondary:** 138-109000, 138-139000, 138-141000, 166-350000, 285-114000, 403-250000, 403-259000, 403-260000, 403-334000, 403-404000, 405-169000, 405-195100, 428-036900, 428-036910

US Classification, Issued: 166367, 42836.9, 42836.91, 403250, 403259, 403260, 403334, 403404, 405169, 405195.1, 285114, 285149, 166350, 138109, 138139, 138141

File Segment: EngPI; ;

DWPI Class: Q49; Q67

21/5/49 (Item 48 from file: 350)

Fulltext available through: [Order File History](#)

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0008178542

WPI Acc no: 1997-281092/199725

XRAM Acc no: C1997-090417

XRPX Acc No: N1997-232831

Well screen for preventing migration of solid particles into production well - comprises deformable tubular filter layer with specified pore size, preventing e.g. sand, gravel and/or proppant from migrating into well

Patent Assignee: SHELL CANADA LTD (SHEL); SHELL INT RES MIJ BV (SHEL); SHELL OIL CO (SHEL)

Inventor: DONNELLY M; EMMEN J H P; EMMEN J H P M; KENTER C J; LOHBECK W C M; REIJEN P H F; REIJNEN P H F; ROSA B R; ROSS B R; SAMUEL A J; SUTE A J; EMMEN J; KENTER C; LOHBECK W; REIJNEN P; ROSS B; SAMUEL A

Patent Family (17 patents, 72 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
WO 1997017524	A2	19970515	WO 1996EP4887	A	19961107	199725	B
AU 199675680	A	19970529	AU 199675680	A	19961107	199737	E
WO 1997017524	A3	19970619	WO 1996EP4887	A	19961107	199740	E

NO 199802087	A	19980707	WO 1996EP4887	A	19961107	199837	E
			NO 199802087	A	19980507		
EP 859902	A2	19980826	EP 1996938148	A	19961107	199838	E

			WO 1996EP4887	A	19961107		
BR 199611456	A	19990217	BR 199611456	A	19961107	199914	E
			WO 1996EP4887	A	19961107		
US 5901789	A	19990511	US 1996745391	A	19961108	199926	E
AU 710745	B	19990930	AU 199675680	A	19961107	199952	E
NZ 322015	A	19991028	NZ 322015	A	19961107	199953	E
			WO 1996EP4887	A	19961107		
JP 11514712	W	19991214	WO 1996EP4887	A	19961107	200009	E
			JP 1997517863	A	19961107		
US 6012522	A	20000111	US 1996745391	A	19961108	200010	E
			US 1999233303	A	19990119		
EP 859902	B1	20011121	EP 1996938148	A	19961107	200176	E
			WO 1996EP4887	A	19961107		
DE 69617258	E	20020103	DE 69617258	A	19961107	200210	E
			EP 1996938148	A	19961107		
			WO 1996EP4887	A	19961107		
NO 314004	B1	20030113	WO 1996EP4887	A	19961107	200312	E
			NO 19982087	A	19980507		
JP 3825805	B2	20060927	WO 1996EP4887	A	19961107	200663	E
			JP 1997517863	A	19961107		
EP 859902	B2	20061011	EP 1996938148	A	19961107	200668	E
			WO 1996EP4887	A	19961107		
CA 2237126	C	20061017	CA 2237126	A	19961107	200669	E
			WO 1996EP4887	A	19961107		

Priority Applications (no., kind, date): EP 1995203038 A 19951108

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes	
WO 1997017524	A2	EN	28	6		
National Designated States,Original		AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN				
Regional Designated States,Original		AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG				
AU 199675680	A	EN			Based on OPI patent	WO 1997017524
WO 1997017524	A3	EN				
NO 199802087	A	NO			PCT Application	WO 1996EP4887
EP 859902	A2	EN			PCT Application	WO 1996EP4887

				Based on OPI patent	WO 1997017524
Regional Designated States,Original	DE DK FR GB IT NL				
BR 199611456	A	PT		PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524

AU 710745	B	EN		Previously issued patent	AU 9675680
				Based on OPI patent	WO 1997017524
NZ 322015	A	EN		PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524
JP 11514712	W	JA	35	PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524
US 6012522	A	EN		Division of application	US 1996745391
				Division of patent	US 5901789
EP 859902	B1	EN		PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524
Regional Designated States,Original	DE DK FR GB IT NL				
DE 69617258	E	DE		Application	EP 1996938148
				PCT Application	WO 1996EP4887
				Based on OPI patent	EP 859902
				Based on OPI patent	WO 1997017524
NO 314004	B1	NO		PCT Application	WO 1996EP4887
				Previously issued patent	NO 9802087
JP 3825805	B2	JA	12	PCT Application	WO 1996EP4887
				Previously issued patent	JP 11514712
				Based on OPI patent	WO 1997017524
EP 859902	B2	EN		PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524
Regional Designated States,Original	DE DK FR GB IT NL				
CA 2237126	C	EN		PCT Application	WO 1996EP4887
				Based on OPI patent	WO 1997017524

Alerting Abstract WO A2

The deformable well screen for preventing the migration of solid particles into a hydrocarbon production well, comprises at least one tubular filter layer having a sieve opening size which is tailored to the size of particles that are to be blocked by the screen. The filter layer is deformable such that it can be expanded, bent, compressed and/or fluidised during installation of the screen in a wellbore. Any variation of the sieve opening size of each filter layer as a result of such deformation remains within predetermined limits.

Also claimed is a process of installing a deformable well screen in a hydrocarbon production well.

USE - Used as a well screen for preventing the migration of solid particles, such as sand.

ADVANTAGE - The well screen prevents solid particles, including sand and other formation minerals, gravel and/or proppant, migrating into a hydrocarbon production well, the screen having a tubular filter layer of specified pore size.

Title Terms /Index Terms/Additional Words: WELL; SCREEN; PREVENT; MIGRATION; SOLID; PARTICLE; PRODUCE; COMPRISE; DEFORM; TUBE; FILTER; LAYER; SPECIFIED; PORE; SIZE; SAND; GRAVEL; PROP

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date			
E21B-043/08			Main		"Version 7"			
B01D-0029/21	A	I		R	20060101			
B01D-0029/25	A	I	L	B	20060101			
B01D-0029/25	A	I	L	R	20060101			
B01D-0029/58	A	I	L	B	20060101			
B01D-0029/58	A	I		R	20060101			
B01D-0039/08	A	I	L	B	20060101			
B01D-0039/08	A	I		R	20060101			
B01D-0039/10	A	I	L	B	20060101			
B01D-0039/10	A	I		R	20060101			
B01D-0039/14	A	I	L	B	20060101			
B01D-0039/14	A	I		R	20060101			
B01D-0039/20	A	I	L	B	20060101			
B01D-0039/20	A	I	L	R	20060101			
E21B-0043/04	A	I	L	B	20060101			
E21B-0043/04	A	I		R	20060101			
E21B-0043/08	A	I	F	B	20060101			
E21B-0043/08	A	I		R	20060101			
E21B-0043/10	A	I	L	B	20060101			
E21B-0043/10	A	I		R	20060101			
B01D-0029/13	C	I	L	B	20060101			
B01D-0029/13	C	I		R	20060101			
B01D-0029/50	C	I	L	B	20060101			
B01D-0029/50	C	I		R	20060101			
B01D-0039/08	C	I	L	B	20060101			
B01D-0039/08	C	I		R	20060101			
B01D-0039/10	C	I	L	B	20060101			
B01D-0039/10	C	I		R	20060101			
B01D-0039/10	C	I	L	B	20060101			
B01D-0039/14	C	I	L	B	20060101			
B01D-0039/14	C	I		R	20060101			
B01D-0039/20	C	I	L	B	20060101			
B01D-0039/20	C	I	L	R	20060101			
E21B-0043/02	C	I	F	B	20060101			
E21B-0043/02	C	I		R	20060101			

ECLA: B01D-029/21+/21W+/54+/58+/96, B01D-039/08, B01D-039/10, B01D-039/14, E21B-043/04, E21B-043/08P, E21B-043/08S, E21B-043/10F

US Classification, Current Main: 166-276000, 166-381000; **Secondary:** 166-207000, 166-227000, 166-228000, 166-230000

US Classification, Issued: 166207, 166230, 166381, 166207, 166227, 166228, 166276

File Segment: CPI; EngPI

DWPI Class: A88; H01; Q49

Manual Codes (CPI/A-N): A12-H04; H01-C07

21/5/71 (Item 70 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0002660665

WPI Acc no: 1983-51144K/198321

XRAM Acc no: C1983-049729

XRPX Acc No: N1983-091191

Oil and gas well filter with concentric perforated tubes - has axially and radially adjusting inner tube to vary filter characteristic, to suit conditions and flow

Patent Assignee: DNEPROPETROVSK ARTEM MIN (DNAR)

Inventor: ANTONOV Y U I; DAVIDENKO A N; KOZHEVNIKO A A

Patent Family (1 patents, 1 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
SU 941547	B	19820717	SU 2901951	A	19800331	198321	B

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
SU 941547	B	RU	2	1	

Alerting Abstract SU B

The filter formed from concentric outer and inner perforated tubes and a top tube has been modified to extend well life and cut costs on workovers and cleaning. The inner perforated tube (4) can adjust axially and radially. The

enables the **filter** characteristics to be varied on line by adjusting the inner tube relative the outer tube and so altering the available **filter** passag.e Bul.25/7.7.82. (

Title Terms /Index Terms/Additional Words: OIL; GAS; WELL; FILTER; CONCENTRIC; PERFORATION; TUBE; AXIS; RADIAL; ADJUST; INNER; VARY; CHARACTERISTIC; SUIT; CONDITION; FLOW

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
E21B-043/08			Secondary		"Version 7"

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C; H01-D

21/5/72 (Item 71 from file: 350)

Fulltext available through: [Order File History](#)

Derwent WPIX

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0002652015

WPI Acc no: 1983-39003K/198316

XRAM Acc no: C1983-038162

XRPX Acc No: N1983-070809

Bimetallic well screen for injection well - has weldments and shrink fit connection between screen member and pipe base to permit relative movement due to thermal expansion

Patent Assignee: UOP INC (UNVO)

Inventor: LILLY J A

Patent Family (2 patents, 2 & countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	Type
US 4378840	A	19830405	US 1981258360	A	19810428	198316	B
			US 1981258360	A	19810428		
CA 1169356	A	19840619				198429	E

Priority Applications (no., kind, date): US 1981258360 A 19810428

Patent Details

Patent Number	Kind	Lan	Pgs	Draw	Filing Notes
US 4378840	A	EN	5		
CA 1169356	A	EN			

Alerting Abstract US A

Bimetallic well screen assembly for use in an injection well at elevated temps. includes a pipe base member having a perforated portion intermediate its ends and a well screen member having a slotted portion overlying the perforated portion. The well screen member has a temp. coefft. of expansion greater than that of the pipe base member and has an end ring portion welded to the underlying pipe base member. The other end ring portion has a radially compressed shrink fit connection to the underlying pipe base member at normal temps. At elevated operational temps. there is a spacing between the end ring portion and pipe base member which is less than the max. width of the slot openings.

Used in an injection well for oil and gas prodn. At operational temps. the ring portion becomes unstressed and so prevents damage to the screen member while blocking out entry of particles. An effective seal is retained between the members while accommodating their relative movement caused by the differential thermal expansion.

Title Terms /Index Terms/Additional Words: BIMETAL; WELL; SCREEN; INJECTION; WELD; SHRINK; FIT; CONNECT; MEMBER; PIPE; BASE; PERMIT; RELATIVE; MOVEMENT; THERMAL; EXPAND

Class Codes

International Patent Classification

IPC	Class Level	Scope	Position	Status	Version Date
E21B-043/08			Secondary		"Version 7"

ECLA: B01D-029/11B+/15+/48, E21B-043/08W

US Classification, Current Main: 166-233000

US Classification, Issued: 166233

File Segment: CPI; EngPI

DWPI Class: H01; Q49

Manual Codes (CPI/A-N): H01-C07



(WO/2004/103603) PRODUCTION OF CLAD PIPES

[Biblio. Data](#) [Description](#) [Claims](#) [National Phase](#) [Notices](#) [Documents](#)

Latest bibliographic data on file with the International Bureau



Pub. No.: WO/2004/103603 International Application No.: PCT/AU2004/000672

Publication Date: 02.12.2004 International Filing Date: 20.05.2004

Chapter 2 Demand Filed: 21.03.2005

IPC: B21D 39/04 (2006.01), B21D 39/20 (2006.01)

Applicants: CLADTEK INTERNATIONAL PTY LTD [AU/AU]; Level 2, 62 Colin Street, West Perth, Western Australia 6005 (AU) (All Except US).
MONTAGUE, Paul, Anthony [AU/AU]; (AU) (US Only).

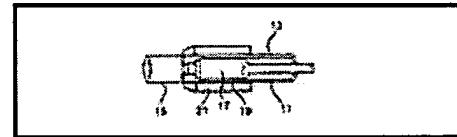
Inventor: MONTAGUE, Paul, Anthony; (AU).

Agent: WRAY & ASSOCIATES; Level 4, The Quadrant, 1 William Street, Perth, Western Australia 6000 (AU).

Priority Data: 2003902440 20.05.2003 AU

Title: PRODUCTION OF CLAD PIPES

Abstract: A method of manufacturing a tubular structure such as a clad pipe (10) having inner and outer pipe sections (11, 13) with an interference fit therebetween and also a clad pipe (10) manufactured in accordance with that method. The method comprises the following steps: (a) positioning two pipe sections one within the other to provide an assembly (15) comprising the inner pipe section (11) and the outer pipe section (13); (b) radially expanding a portion of the inner pipe section (11) into engagement with the surrounding portion of the outer pipe section (13) using an expansion tool (17); (c) continuing to radially expand said portion of the inner pipe section (11) to plastically expand said portion of the inner pipe section (13) and elastically expand the surrounding portion of the outer pipe section (13); and (d) repeating steps (b) and (c) for one or more further portions of the inner pipe section (11). Because the inner pipe section (11) is radially expanded into a condition which it undergoes plastic deformation and the outer pipe section (13) is radially expanded to undergo elastic but not plastic deformation, interference between the inner and outer pipe sections is achieved due to the residual tensile stress in the outer pipe section (13) and the residual compression stress in the inner pipe section (11). The method may also involve establishing a metallurgical bond between the confronting surfaces of the two pipe sections (11, 13).



Designated States: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
African Regional Intellectual Property Org. (ARIPO) (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW)

Eurasian Patent Organization (EAPO) (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM)

European Patent Office (EPO) (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR)

African Intellectual Property Organization (OAPI) (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Publication Language:

English (EN)

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English (EN)